

1. First, find the equation of the line containing the two points below. Then, write the equation in the form  $y = mx + b$  and choose the intervals that contain  $m$  and  $b$ .

$$(6, 6) \text{ and } (9, 11)$$

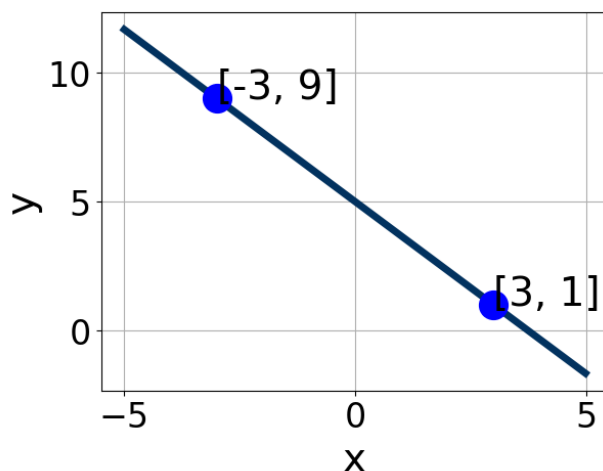
- A.  $m \in [-7.67, 0.33]$   $b \in [25.8, 29.2]$
- B.  $m \in [-0.33, 8.67]$   $b \in [3.7, 5.9]$
- C.  $m \in [-0.33, 8.67]$   $b \in [-1, 1.2]$
- D.  $m \in [-0.33, 8.67]$   $b \in [-5.2, -2.9]$
- E.  $m \in [-0.33, 8.67]$   $b \in [1.1, 2.9]$
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2. Solve the linear equation below. Then, choose the interval that contains the solution.

$$\frac{3x - 5}{4} - \frac{4x - 7}{3} = \frac{-8x - 9}{8}$$

- A.  $x \in [3.9, 8.9]$
- B.  $x \in [-0.32, 4.68]$
- C.  $x \in [-29.4, -25.4]$
- D.  $x \in [-8.3, -1.3]$
- E. There are no real solutions.
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3. Write the equation of the line in the graph below in Standard Form  $Ax + By = C$ . Then, choose the intervals that contain  $A$ ,  $B$ , and  $C$ .



- A.  $A \in [1.6, 5.3]$ ,  $B \in [-3.06, -2.19]$ , and  $C \in [-20, -12]$   
 B.  $A \in [1.6, 5.3]$ ,  $B \in [2.68, 3.08]$ , and  $C \in [15, 18]$   
 C.  $A \in [1.1, 3.6]$ ,  $B \in [-1.07, -0.62]$ , and  $C \in [-7, 0]$   
 D.  $A \in [-9, -3]$ ,  $B \in [-3.06, -2.19]$ , and  $C \in [-20, -12]$   
 E.  $A \in [1.1, 3.6]$ ,  $B \in [0.83, 1.71]$ , and  $C \in [1, 13]$

4. Solve the equation below. Then, choose the interval that contains the solution.

$$-9(-14x + 11) = -18(7x - 6)$$

- A.  $x \in [0.03, 0.04]$   
 B.  $x \in [-0.03, 0.01]$   
 C.  $x \in [0.82, 0.83]$   
 D.  $x \in [-0.07, -0.03]$   
 E. There are no real solutions.

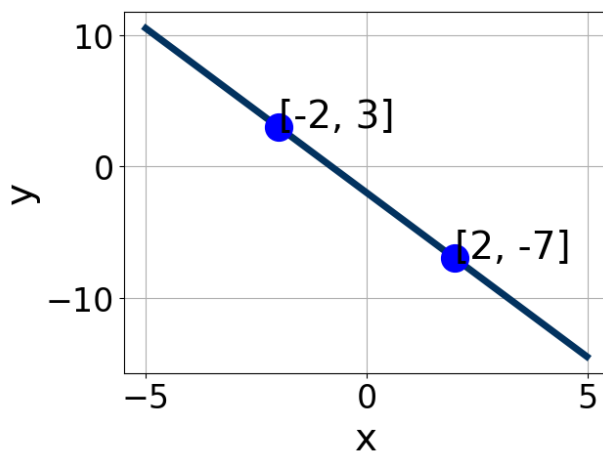
5. Find the equation of the line described below. Write the linear equation in the form  $y = mx + b$  and choose the intervals that contain  $m$  and  $b$ .

Perpendicular to  $7x - 4y = 15$  and passing through the point  $(2, -5)$ .

- A.  $m \in [0.08, 1.18]$   $b \in [-6.79, -5.47]$

- B.  $m \in [-1.15, 0.33]$   $b \in [-7.55, -6.33]$   
C.  $m \in [-1.15, 0.33]$   $b \in [-4.77, -3.59]$   
D.  $m \in [-1.78, -1]$   $b \in [-4.77, -3.59]$   
E.  $m \in [-1.15, 0.33]$   $b \in [3.2, 4.62]$
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6. Write the equation of the line in the graph below in Standard Form  $Ax + By = C$ . Then, choose the intervals that contain  $A$ ,  $B$ , and  $C$ .



- A.  $A \in [0.4, 4.1]$ ,  $B \in [0.95, 1.55]$ , and  $C \in [-2.54, -1.9]$   
B.  $A \in [-7.1, -3.9]$ ,  $B \in [-2.17, -1.4]$ , and  $C \in [3.28, 4.82]$   
C.  $A \in [4.8, 7.2]$ ,  $B \in [1.19, 2.03]$ , and  $C \in [-5.16, -3.1]$   
D.  $A \in [4.8, 7.2]$ ,  $B \in [-2.17, -1.4]$ , and  $C \in [3.28, 4.82]$   
E.  $A \in [0.4, 4.1]$ ,  $B \in [-1.28, -0.62]$ , and  $C \in [0.68, 2.36]$
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7. Find the equation of the line described below. Write the linear equation in the form  $y = mx + b$  and choose the intervals that contain  $m$  and  $b$ .

Perpendicular to  $5x + 4y = 13$  and passing through the point  $(4, 7)$ .

- A.  $m \in [0.68, 1.24]$   $b \in [-3.86, -3.23]$   
B.  $m \in [0.68, 1.24]$   $b \in [3.48, 4.1]$   
C.  $m \in [-1.73, -0.68]$   $b \in [10.01, 10.27]$

D.  $m \in [0.82, 1.33]$   $b \in [3.48, 4.1]$

E.  $m \in [0.68, 1.24]$   $b \in [2.56, 3.07]$

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8. Solve the equation below. Then, choose the interval that contains the solution.

$$-14(-5x - 19) = -18(-13x - 11)$$

A.  $x \in [0.1, 0.7]$

B.  $x \in [-2.5, -0.8]$

C.  $x \in [1.9, 3]$

D.  $x \in [-3.4, -2]$

E. There are no real solutions.

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9. First, find the equation of the line containing the two points below. Then, write the equation in the form  $y = mx + b$  and choose the intervals that contain  $m$  and  $b$ .

$$(-2, 11) \text{ and } (-7, -2)$$

A.  $m \in [1.6, 11.6]$   $b \in [12.6, 15.6]$

B.  $m \in [-4.6, 0.4]$   $b \in [-23.9, -16.6]$

C.  $m \in [1.6, 11.6]$   $b \in [-16.3, -16.1]$

D.  $m \in [1.6, 11.6]$   $b \in [15, 18.1]$

E.  $m \in [1.6, 11.6]$   $b \in [3.5, 6]$

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10. Solve the linear equation below. Then, choose the interval that contains the solution.

$$\frac{3x - 4}{8} - \frac{-8x + 5}{3} = \frac{8x + 7}{5}$$

A.  $x \in [1.8, 5.3]$

B.  $x \in [-1.2, 0.6]$

- C.  $x \in [0.6, 2]$
  - D.  $x \in [9.2, 12.7]$
  - E. There are no real solutions.
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